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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Carro, et al.
Serial Number	:	To Be Assigned
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For	:	METHOD AND SYSTEM OF MARKING A TEXT DOCUMENT WITH A PATTERN OF EXTRA BLANKS FOR AUTHENTICATION

TO: The Honorable Commissioner of Patents
and Trademarks
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Please cancel Claims 1 - 11 in the enclosed application as filed and insert therefor the following claims:

1. A method of marking a text document [100] through the insertion of inter-word blank characters, said method comprising the steps of:

editing [110] the number of said inter-word blank characters of said text document in order to conform to a model to obtain a canonical text document [120];

retaining, from said canonical text document, to further conform to said model, a subset of positions [230] of said inter-word blank characters, said subset of positions permitting insertion of blank characters;

computing, using said canonical text document [120] and a secret-key as inputs [130], a unique combination of positions among said subset of positions;

inserting into each position [151] of said unique combination of positions at least one extra blank character thus, obtaining a marked text document [150].

2. The method according to claim 1 wherein said text document [100] is said marked text document [150] to be authenticated by a recipient sharing said secret-key [130], said method further comprising the step of:

comparing [160] said text document [100] to said marked text document.

if matching exactly [161] :

accepting said received text document as authentic;

if not (162] :

rejecting said received text document as fake.

3. The method according to claim 2 wherein said model involves stripping all inter-word blank characters [110], in excess of one, off said text document, said text document, said model further retaining all said positions of said inter-word blank characters in said subset of positions.

4. The method according to Claim 3 wherein said model calls for the insertion, into a soft-copy text document, of three blank characters [240] at each end-of-line.

5. The method according to Claim 4 wherein said model calls for excluding end-of-line blank characters [240] from said subset of positions.

6. The method according to Claim 5 wherein the number of inserted blanks to mark a said text

document is set to reach a probability equal to or less than a predefined value of obtaining an identical said marked text document purely by chance.

7. The method according to claim 1 wherein the step of computing a unique combination of positions further includes the steps of:

calculating a digest [342] uniquely representing said
secret-key [330] combined with said canonical text [320];
deriving from said digest a plurality of randomly distributed numbers [346] fitting in said subset of positions.

8. The method according to claim 7 wherein the step of calculating a digest is replaced by the step of:

applying a hashing function [420] over said secret-key[415] concatenated with said canonical text [410] thus obtaining a fixed-size keyed digest [430].

9. The method according to claim 8 wherein the step of deriving a plurality of randomly distributed numbers further includes the steps of:

indexing said subset of positions [530];
using said digest as a seed [510] of a PRN (pseudo-random-number) generator;
operating said PRN generator;. said step of operating said PRN generator further including the steps of:

retaining those of said numbers that fit said indexing[540];
excluding duplicated said numbers [545];

continuing to operate said PRN generator till enough valid numbers are withdrawn [525] to match the number of blanks to be inserted.

10. An authentication system, suitable for authenticating a text document, comprising means adapted for carrying out the method defined in Claim 1.

11. A computer-like readable medium comprising instructions for carrying out the method defined in Claim 9.

The claims presented herein have been modified to conform in general with standard United States Patent Office practice. No substantive changes have been made to the claims.

In view of the scope of the novel claims, allowance of this case is warranted. Such favorable action is respectfully solicited.

Respectfully Submitted,

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I hereby certify that this paper is being deposited on the date indicated below with the U.S. Postal Service as First Class Mail addressed to Commissioner of Patents & Trademarks, Washington, D.C. 20231

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